

IMATION

TECHNICAL
MASTER

NO LEOS ON 108
CONTROL PCB

CK 108 CODED LOCK USER'S MANUAL

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MODEL 108 CODED LOCK

WE ARE PLEASED THAT YOU CHOSE OUR PRODUCT FOR YOUR REQUIREMENT AND WE HOPE THAT WITHIN THE NEXT FEW PAGES YOU WILL HAVE GAINED ALL NECESSARY EXPERTISE TO PROGRAM OUR MODEL 108 CODED LOCK.

FIRST, HOWEVER, MAY WE MENTION A FEW POINTS THAT MAKE THE MODEL 108 UNIQUE AND, IN OUR OPINION, THE MOST ADVANCED CODED LOCK AVAILABLE TO DATE.

- * ALL FUNCTIONS ARE USER PROGRAMMABLE.
- * THE MEMORY IS NON VOLATILE (IT DOES NOT DEPEND ON A BATTERY).
- * THE UNIT INCORPORATES A MASKED MICROCOMPUTER PURPOSE DESIGNED FOR THE SECURITY INDUSTRY.
- * IF AND WHEN THE COMPUTER 'CRASHES' IT WILL AUTOMATICALLY RESET WITHIN AN AVERAGE TIME OF 10 MILLISECONDS WITHOUT LOSING ANY STORED DATA.

PLEASE READ INSTALLATION INSTRUCTIONS BEFORE INSTALLING.

SPECIFICATION:

INPUT VOLTAGE 12 VOLTS NOMINAL DC AT 1 AMP.

QUIESCIENT CURRENT: 0.2 AMP.

4 OUTPUTS: 2 FOR LOCK RELEASES MAXIMUM 0.5 AMP. EACH
2 FOR ALARM CIRCUITS MAXIMUM 0.5 AMP. EACH

3 INPUTS: 2 FOR KEYPADS 7 WIRES EACH
1 FOR EXTERIOR SWITCH (TIME CLOCK, CARD READER ETC.)

THIS MANUAL IS TO BE LEFT WITH THE USER.

INSTALLATION INSTRUCTIONS

A LOCK RELEASE OR ANY OTHER DEVICE WHICH IS TO BE DRIVEN DIRECTLY BY THE UNIT MUST NOT EXCEED 0.5 AMP FOR RELIABLE OPERATION.

THE SOFTWARE WITHIN THE MICROPROCESSOR WILL INSTANTLY DETECT AN OVERLOAD AND SWITCH OFF BEFORE ANY DAMAGE CAN BE DONE. IT WILL APPEAR AS IF THE UNIT IS NOT WORKING, FOR THAT REASON A FILAMENT BULB CANNOT BE USED FOR TESTING THE UNIT AS WHEN THE BULB IS 'COLD' IT INITIALLY DRAWS MORE THAN 0.5 AMP.

IF IT IS REQUIRED THAT YOU DRIVE A DEVICE WHICH IS MORE THAN 0.5 AMP AN ISOLATING RELAY MUST BE USED.

IMPORTANT

IN THE EVENT THAT THE LOCK RELEASE IS ALSO USED BY ANOTHER SYSTEM SUCH AS A DOOR ENTRY TELEPHONE SYSTEM AN ISOLATING RELAY MUST BE USED.

WARNING

DO NOT APPLY ANY OTHER VOLTAGE TO THE LOCK AND ALARM OUTPUT, THIS WOULD DAMAGE THE UNIT.

TROUBLE SHOOTING

NOTHING OPERATES BEFORE CODING:

- 1) TEST POWER SUPPLY, IT SHOULD READ 13 TO 15 VOLTS
- 2) CHECK KEYPAD WIRING
- 3) MAKE CERTAIN THAT THE PROGRAM SWITCH IS SET TO 'N'
- 4) IS THE LOAD MORE THAN 0.5 AMP? IF YOU ARE NOT CERTAIN, MEASURE THE RESISTANCE OF THE COIL IT SHOULD BE ABOVE 28 OHMS.
- 5) CHECK CONNECTIONS TO THE KEYPAD
- 6) INITIALLY THE FACTORY CODE SHOULD OPERATE, IT'S 12345
- 7) ARE YOU USING KEYPAD 'A' AND LOCK RELEASE 'A'?

NOTHING OPERATES AFTER CODING:

IF THE FACTORY CODE OPERATED BEFORE YOU CODED, PLEASE READ INSTRUCTIONS AGAIN, BE CAREFUL WHEN ENTERING CODES REMEMBER TO SLIDE PROGRAMMING SWITCH BACK TO 'N' AFTER CODING.

IT IS POSSIBLE TO PROGRAM OTHER FUNCTIONS ACCIDENTALLY WHILST PROGRAMMING A CHANGE OF CODE, THIS COULD STOP THE UNIT FROM FUNCTIONING.

BENCH TESTING

IN THE EVENT THAT YOU ARE TESTING THE UNIT ON THE BENCH AND THE KEYPAD IS CONNECTED A SHORT DISTANCE FROM THE UNIT YOU MUST ALLOW A MINIMUM TIME OF TWO SECONDS TO ELAPSE BEFORE SLIDING THE PROGRAMMING SWITCH BACK TO 'N' AFTER KEYING IN THE CODE, THIS TIME IS REQUIRED FOR THE UNIT TO STORE THE NEW SOFTWARE.

IMPORTANT: THIS UNIT CAN BE DAMAGED IF A DOOR ENTRY SYSTEM IS INSTALLED USING THE SAME LOCK RELEASE AND A 'FOREIGN' VOLTAGE IS APPLIED TO THE LOCK RELEASE OUTPUT, YOU MUST USE AN ISOLATING RELAY.

FACTORY CODE:

IN THE EVENT THAT NOTHING WORKS YOU MUST REPROGRAM THE FACTORY CODE:

- 1) SLIDE SWITCH TO 'P'
- 2) KEY ONTO THE KEYPAD THE FOLLOWING: 09★ #
- 3) SLIDE THE SWITCH BACK TO 'N'

SECOND CODE:

DO NOT CONFUSE THE SECOND CODE WITH THE SECOND DOOR. EACH DOOR, (THIS IS THE KEYPAD WITH ITS ASSOCIATED LOCK RELEASE) HAS TWO CODES AVAILABLE. IF YOU ARE REQUIRED TO PROGRAM A SECOND DOOR, (THAT IS A SECOND KEYPAD WITH ITS ASSOCIATED LOCK RELEASE) THE INSTRUCTIONS ARE AS FOR THE FIRST DOOR. THE USE OF THE SECOND KEYPAD IS SUFFICIENT TO INSTRUCT THE UNIT THAT YOU ARE PROGRAMMING THE SECOND DOOR.

THE SECOND CODE REQUIRES THE CONTACTS 'TC' TO BE SHORTED OUT FOR THE CODE TO OPERATE.

PROGRAMMING CODE NO. 1

THIS FUNCTION WILL PROGRAM THE UNIT WITH A NEW CODE, ANY NUMBER UP TO 8 DIGITS MAY BE USED FOR THIS CODE. THIS FUNCTION IS PROGRAMMED SEPARATELY FOR EACH DOOR BY USING ITS RESPECTIVE KEYPAD.

(FACTORY CODE SET AT 12345)

TO PROGRAM CODE NO. 1 USE ----- 01★

EXAMPLE: YOU WISH TO CHANGE THE CODE TO 222560

- 1) SLIDE PROGRAMMING SWITCH ON THE PRINTED CIRCUIT BOARD TO 'P'
- 2) TYPE ONTO THE KEYPAD: 01★ 222560 #
- 3) SLIDE PROGRAMMING SWITCH ON THE PRINTED CIRCUIT BOARD BACK TO 'N'

PROGRAMMING CODE NO. 2

THIS FUNCTION WILL PROGRAM THE UNIT WITH A NEW SECOND CODE, ANY NUMBER UP TO 8 DIGITS MAY BE USED FOR THIS CODE. THIS FUNCTION IS PROGRAMMED SEPARATELY FOR EACH DOOR BY USING ITS RESPECTIVE KEYPAD.

NOTE: THIS CODE WILL ONLY OPERATE WHEN TERMINALS 'TC' ARE SHORTED OUT BY A WIRE LINK OR CONTACTS FROM A TIME CLOCK ETC.

(FACTORY CODE SET AT 67890)

TO PROGRAM CODE NO. 2 USE ----- 02★

EXAMPLE: YOU WISH TO CHANGE THE CODE TO: 802

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO THE KEYPAD: 02★ 802 #
- 3) SLIDE SWITCH BACK TO 'N'

LOCK DURATION

THIS IS THE TIME FOR WHICH THE LOCK WILL OPERATE AFTER THE CORRECT CODE HAS BEEN ENTERED. THIS FUNCTION IS PROGRAMMED SEPARATELY FOR EACH DOOR BY USING ITS RESPECTIVE KEYPAD.

(FACTORY CODE SET AT 3 SECONDS)

TO PROGRAM THE TIME IN SECONDS (1 TO 60) USE ----- 03 ★

TO PROGRAM THE TIME IN MINUTES (1 TO 60) USE ----- 13 ★

TO PROGRAM THE TIME IN TENTHS OF SECONDS (1 TO 60) USE ----- 23 ★

TO PROGRAM THE TIME IN TEN'S OF SECONDS (1 TO 60) USE ----- 33 ★

EXAMPLE: YOU WISH THE LOCK RELEASE TO OPERATE FOR 9 SECONDS:

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO KEYPAD: 03 ★ 9 #
- 3) SLIDE SWITCH TO 'N'

LOCK DELAY

THIS IS THE TIME WHICH WILL ELAPSE BETWEEN THE CORRECT CODE BEING ENTERED AND LOCK RELEASE OPERATING. THIS FUNCTION IS PROGRAMMED SEPARATELY FOR EACH DOOR BY USING ITS RESPECTIVE KEYPAD.

(FACTORY CODE SET AT 0)

TO PROGRAM TIME IN SECONDS (1 TO 60) USE ----- 05 ★

TO PROGRAM TIME IN MINUTES (1 TO 60) USE ----- 15 ★

TO PROGRAM TIME IN TENTHS OF SECONDS (1 TO 60) USE ----- 25 ★

TO PROGRAM TIME IN TEN'S OF SECONDS (1 TO 60) USE ----- 35 ★

EXAMPLE: YOU WISH TO PROGRAM THE LOCK RELEASE TO OPERATE 2 MINUTES AFTER THE CORRECT CODE IS ENTERED:

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO KEYPAD: 15 ★ 2 #
- 3) SLIDE SWITCH TO 'N'

ALARM DURATION

THIS IS THE TIME FOR WHICH AN ALARM WILL OPERATE. THIS FUNCTION IS PROGRAMMED SEPARATELY FOR EACH DOOR BY USING ITS RESPECTIVE KEYPAD. TAKE NOTE: WHILST THE ALARM IS OPERATING ALL OTHER FUNCTIONS ARE INOPERATIVE.

(FACTORY CODE SET AT 30 SECONDS)

TO PROGRAM TIME IN SECONDS (1 TO 60) USE ----- 04 ★

TO PROGRAM TIME IN MINUTES (1 TO 60) USE ----- 14 ★

TO PROGRAM TIME IN TENTHS OF SECONDS (1 TO 60) USE ----- 24 ★

TO PROGRAM TIME IN TEN'S OF SECONDS (1 TO 60) USE ----- 34 ★

EXAMPLE: YOU WISH THE ALARM TO OPERATE FOR 25 SECONDS:

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO KEYPAD: 04 ★ 25 #
- 3) SLIDE SWITCH BACK TO 'N'

NOTE: THE ALARM OUTPUTS CAN DRIVE ANY DEVICE SUCH AS AN ELECTRONIC TONE, OR RELAY AS LONG AS THEY DO NOT EXCEED 0.5 AMP, IN THE EVENT THAT A HIGHER CURRENT DEVICE IS REQUIRED, PLEASE USE AN ISOLATING RELAY.

WHEN THE ALARM IS 'ON' THE LOCK RELEASE WILL NOT OPERATE. SHOULD YOU REQUIRE BOTH THE ALARM AND THE LOCK RELEASE TO OPERATE SUCH AS WITH A 'DURESS CODE' PLEASE REFER TO THE 'ACTION CODES'.

FALSE CODE ALARM:

THIS FUNCTION IMPOSES A TIME LIMIT FOR ENTERING THE CODE. WHEN IN USE IT WILL TRIGGER AND ALARM IF A VALID CODE IS NOT KEYED IN WITHIN THE SPECIFIED PERIOD. THIS FUNCTION IS PROGRAMMED SEPARATELY FOR EACH DOOR USING ITS RESPECTIVE KEYPAD.

(FACTORY CODE SET AT 0) I.E. UNABLE TO OPERATE

TO PROGRAM TIME IN SECONDS (1 TO 60) USE ----- 06 ★

TO PROGRAM TIME IN MINUTES (1 TO 60) USE ----- 16 ★

TO PROGRAM TIME IN TENTHS OF SECONDS (1 TO 60) USE ----- 26 ★

TO PROGRAM TIME IN TENS OF SECONDS (1 TO 60) USE ----- 36 ★

EXAMPLE: YOU WISH AN ALARM TO OPERATE IN THE EVENT THAT THE KEYPAD IS USED, BUT A CORRECT CODE HAS NOT BEEN ENTERED WITHIN 90 SECONDS:

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO KEYPAD: 36 ★ 9 #
- 3) SLIDE SWITCH BACK TO 'N'

KEYING TIME LIMIT

THIS FUNCTION IMPOSES A TIME LIMIT FOR MAKING AN ENTRY. WHEN IN USE IT WILL AUTOMATICALLY CANCEL THE PRECEDING KEYPAD ENTRIES IF THE NEXT ENTRY IS NOT MADE WITHIN THE SPECIFIED TIME. (NO ALARM WILL BE TRIGGERED). THIS FUNCTION IS PROGRAMMED SEPARATELY FOR EACH DOOR BY USING ITS RESPECTIVE KEYPAD.

IMPORTANT NOTE: THE USE OF A FALSE CODE ALARM WILL AUTOMATICALLY DISABLE THIS FUNCTION.

(FACTORY CODE SET AT 10 SECONDS)

TO PROGRAM TIME IN SECONDS (1 TO 60) USE ----- 07 ★

TO PROGRAM TIME IN MINUTES (1 TO 60) USE ----- 17 ★

TO PROGRAM TIME IN TENTHS OF SECONDS (1 TO 60) USE ----- 27 ★

TO PROGRAM TIME IN TEN'S OF SECONDS (1 TO 60) USE ----- 37 ★

EXAMPLE: YOU WISH TO LIMIT THE TIME AVAILABLE BETWEEN ENTRIES TO 5 SECONDS:

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO KEYPAD: 07 ★ 5 #
- 3) SLIDE SWITCH BACK TO 'N'

TO DISABLE THIS FUNCTION:

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO KEYPAD: 07 ★ 0 #
- 3) SLIDE SWITCH BACK TO 'N'

CAUTION: IF KEYING TIME AND FALSE CODE TIME ARE DISABLED. THE SITUATION COULD ARISE WHEREAS MOST OF THE CORRECT CODE IS ENTERED AND LEFT, IT WOULD THEN ONLY NEED THE LAST MISSING DIGIT(S) TO OPERATE THE LOCK.

KEY LIMIT

THIS FUNCTION LIMITS THE NUMBER OF DIGITS WHICH CAN BE ENTERED AT ANY ONE TIME BEFORE TRIGGERING AN ALARM. THIS FUNCTION IS PROGRAMMED SEPARATELY FOR EACH DOOR USING IT'S RESPECTIVE KEYPAD.

(FACTORY CODE SET AT 15)

TO PROGRAM KEY LIMIT (1 TO 99) USE ----- 08 ★

EXAMPLE: YOU WISH TO LIMIT KEY ENTRIES TO 10:

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO KEYPAD: 08 ★ 10 #
- 3) SLIDE SWITCH BACK TO 'N'

ACTION CODES

THESE CODES DETERMINE THE ACTION THAT OCCURS WHEN A VALID CODE HAS BEEN ENTERED. THEY CONTROL THE LOCK AND ALARM OUTPUTS.

THE ACTION CODES ARE PROGRAMMED SEPARATELY FOR EACH DOOR BY USING THE RESPECTIVE KEYPADS.

TWO ACTION CODES MUST ALWAYS BE PROGRAMMED TOGETHER AT ANY ONE TIME, FOR CODE 1 AND CODE 2.

TO PROGRAM ACTION CODES:

- 1) SLIDE SWITCH TO 'P'
- 2) TYPE ONTO KEYPAD: 00★ (ONE DIGIT FOR CODE 1) (ONE DIGIT FOR CODE 2) #
- 3) SLIDE SWITCH BACK TO 'N'

TABLE:

0	LOCK NOT ABLE TO OPERATE
1	LOCK ABLE TO OPERATE
2	LOCK ABLE TO OPERATE ONLY IF CONTACTS ARE CLOSED
3	LOCK ABLE TO OPERATE ONLY IF THE CONTACTS ARE OPEN
4	ALARM ABLE TO OPERATE
5	ALARM ABLE TO OPERATE ONLY IF THE CONTACTS ARE CLOSED
6	ALARM ABLE TO OPERATE ONLY IF THE CONTACTS ARE OPEN
7	DURESS ABLE TO OPERATE
8	DURESS ABLE TO OPERATE ONLY IF THE CONTACTS ARE CLOSED
9	DURESS ABLE TO OPERATE ONLY IF THE CONTACTS ARE OPEN

FACTORY CODE SET AT 12, THAT IS THE FIRST CODE WILL ALWAYS OPERATE AND THE SECOND CODE WILL OPERATE ONLY IF THE 'TC' TERMINALS ARE SHORTED OUT.

ACTION CODE EXAMPLES:

ONE CODE ONLY:

YOU REQUIRE THE FIRST CODE TO OPERATE NORMALLY AND THE SECOND CODE NEVER TO OPERATE.

KEY IN THE FOLLOWING AFTER SWITCHING 'P':

00★ 10# THEN SWITCH TO 'N'

SECOND CODE OPERATES WITH CONTACTS OPEN:

YOU REQUIRE THE 1ST CODE TO OPERATE NORMALLY AND THE 2ND CODE TO OPERATE ONLY WHEN THE 'TC' CONTACTS ARE OPEN.

KEY IN THE FOLLOWING AFTER SWITCHING TO 'P':

00★ 13 # THEN SWITCH TO 'N'

ONE CODE AT A TIME

BOTH CODES ARE REQUIRED BUT NOT AT THE SAME TIME, THE 'TC' CONTACT HAS TO BE USED TO PROGRAM THIS FUNCTION:

THE FIRST CODE IS OPERATIONAL WHEN THE CONTACTS ARE OPEN ONLY, THE SECOND CODE IS OPERATIONAL WHEN THE CONTACTS ARE CLOSED ONLY.

KEY IN THE FOLLOWING AFTER SWITCHING TO 'P':

00★ 32 # THEN SWITCH TO 'N'

DURESS CODES:

A) YOU REQUIRE THE FIRST CODE TO OPERATE NORMALLY, THE SECOND CODE TO OPERATE THE LOCK RELEASE AND THEN OPERATE AN ALARM:

KEY IN THE FOLLOWING AFTER SWITCHING TO 'P':

00★ 17 # THEN SWITCH TO 'N'

B) YOU REQUIRE THE FIRST CODE TO OPERATE NORMALLY, THE SECOND CODE TO OPERATE A LOCK RELEASE AND THEN OPERATE AN ALARM IF THE 'TC' CONTACTS ARE CLOSED:

KEY IN THE FOLLOWING AFTER SWITCHING TO 'P':

00★ 18 # THEN SWITCH TO 'N'

C) YOU REQUIRE THE FIRST CODE TO OPERATE NORMALLY, THE SECOND CODE TO OPERATE AN ALARM ONLY:

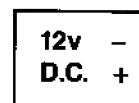
KEY IN THE FOLLOWING AFTER SWITCHING TO 'P'

00★ 14 # THEN SWITCH TO 'N'

PLEASE NOTE: IN THE EVENT THAT YOU WERE NOT SUCCESSFUL IN PROGRAMMING YOUR DESIRED FUNCTION THE FIRST TIME, IT IS ADVISABLE TO GO BACK TO THE FACTORY CODE BEFORE REPROGRAMMING.

FACTORY CODE = 09★ #

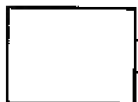
**POWER
SUPPLY**



**KEY SWITCH
TIME - CLOCK OR
CARDKEY READER**



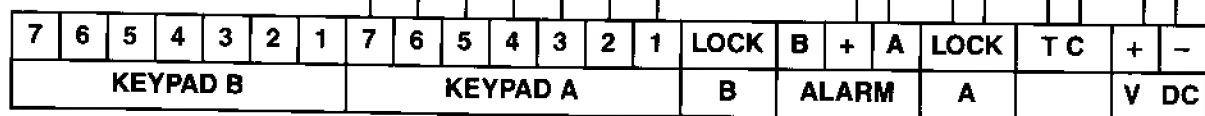
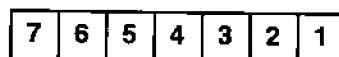
**LOCK RELEASE
DOOR A**



**ALARM CIRCUITS
DOOR A**



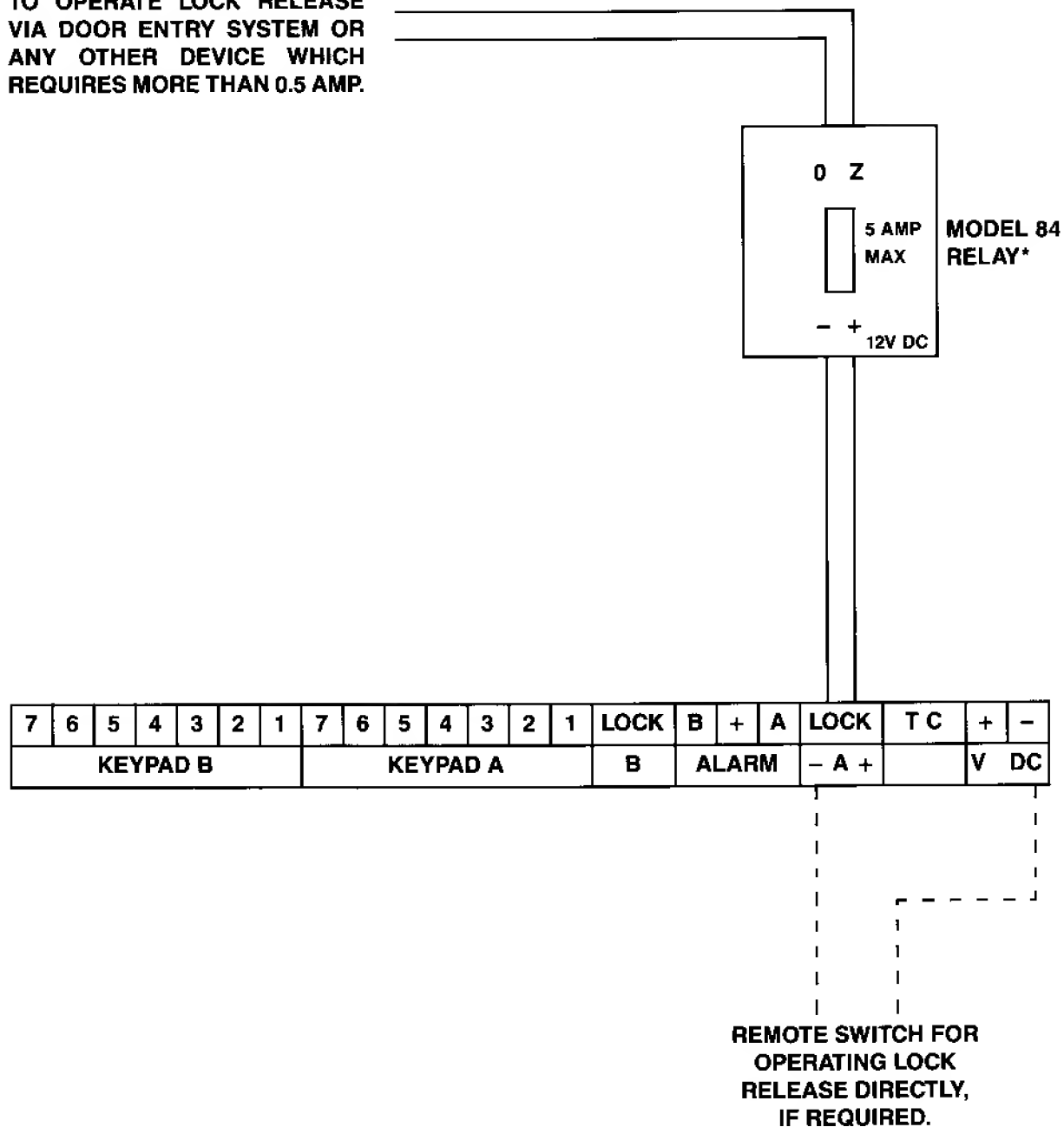
KEYPAD A



The diagram illustrates the wiring for an alarm system. At the top left, a 12v D.C. power source is shown with '-' and '+' terminals. Below it, a 'KEY SWITCH' is labeled 'TIME - CLOCK OR CARDKEY READER'. Further down, 'ALARM CIRCUITS' are shown for 'DOOR B'. Below that, 'LOCK RELEASE' is shown for 'DOOR B'. At the bottom left, 'KEYPAD B' is shown with terminals 1 through 7. At the bottom, 'KEYPAD A' is shown with terminals 1 through 7, plus 'LOCK', 'B', '+', 'A', 'LOCK', 'T C', '+', and '-' terminals. The wiring connections are as follows:

- The 12v D.C. '-' terminal is connected to the '-' terminal of the alarm system.
- The 12v D.C. '+' terminal is connected to the '+' terminal of the alarm system.
- The KEY SWITCH is connected to the 'A' terminal of the alarm system.
- The ALARM CIRCUITS (DOOR B) are connected to the 'B' terminal of the alarm system.
- The LOCK RELEASE (DOOR B) is connected to the 'LOCK' terminal of the alarm system.
- KEYPAD B terminals 1 through 7 are connected to the alarm system terminals 1 through 7.
- KEYPAD A terminals 1 through 7 are connected to the alarm system terminals 1 through 7.
- KEYPAD A 'LOCK' terminal is connected to the 'LOCK' terminal of the alarm system.
- KEYPAD A 'B' terminal is connected to the 'B' terminal of the alarm system.
- KEYPAD A '+' terminal is connected to the '+' terminal of the alarm system.
- KEYPAD A 'A' terminal is connected to the 'A' terminal of the alarm system.
- KEYPAD A 'LOCK' terminal is connected to the 'LOCK' terminal of the alarm system.
- KEYPAD A 'T C' terminal is connected to the 'T C' terminal of the alarm system.
- KEYPAD A '+' terminal is connected to the '+' terminal of the alarm system.
- KEYPAD A '-' terminal is connected to the '-' terminal of the alarm system.

NORMALLY OPEN CONTACTS
TO OPERATE LOCK RELEASE
VIA DOOR ENTRY SYSTEM OR
ANY OTHER DEVICE WHICH
REQUIRES MORE THAN 0.5 AMP.



***NOTE: MODEL 84 RELAY MUST BE INSTALLED NO CLOSER THAN 1 METRE
FROM THE CONTROL UNIT.**